

INFUSION PUMP ASSEMBLY

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] The present application is a Continuation application of U.S. patent application Ser. No. 13/788,280, filed Mar. 7, 2013 and entitled Infusion Pump Assembly, now U.S. Pat. No. 10,987,505, issued Apr. 24, 2021 (Attorney Docket No. K12), which is a Non-Provisional application which claims priority from:

[0002] U.S. Provisional Patent Application Ser. No. 61/607,863, filed Mar. 7, 2012 and entitled Infusion Pump Assembly (Attorney Docket No. J29);

[0003] U.S. Provisional Patent Application Ser. No. 61/667,765, filed Jul. 3, 2012 and entitled Infusion Pump Assembly (Attorney Docket No. H86);

[0004] U.S. Provisional Patent Application Ser. No. 61/668,760, filed Jul. 6, 2012 and entitled Infusion Pump Assembly (Attorney Docket No. 117);

[0005] U.S. Provisional Patent Application Ser. No. 61/736,358, filed Dec. 12, 2012 and entitled Infusion Pump Assembly (Attorney Docket No. K07); and

[0006] U.S. Provisional Patent Application Ser. No. 61/737,520, filed Dec. 14, 2012 and entitled Infusion Pump Assembly (Attorney Docket No. K10),

[0007] all of which are hereby incorporated herein by reference in their entireties.

FIELD OF THE INVENTION

[0008] This application relates generally to fluid delivery systems, and more particularly to infusion pump assemblies.

BACKGROUND

[0009] Many potentially valuable medicines or compounds, including biologicals, are not orally active due to poor absorption, hepatic metabolism or other pharmacokinetic factors. Additionally, some therapeutic compounds, although they can be orally absorbed, are sometimes required to be administered so often it is difficult for a patient to maintain the desired schedule. In these cases, parenteral delivery is often employed or could be employed.

[0010] Effective parenteral routes of drug delivery, as well as other fluids and compounds, such as subcutaneous injection, intramuscular injection, and intravenous (IV) administration include puncture of the skin with a needle or stylet. Insulin is an example of a therapeutic fluid that is self-injected by millions of diabetic patients. Users of parenterally delivered drugs may benefit from a wearable device that would automatically deliver needed drugs/compounds over a period of time.

[0011] To this end, there have been efforts to design portable and wearable devices for the controlled release of therapeutics. Such devices are known to have a reservoir such as a cartridge, syringe, or bag, and to be electronically controlled. These devices suffer from a number of drawbacks including the malfunction rate. Reducing the size, weight and cost of these devices is also an ongoing challenge. Additionally, these devices often apply to the skin and pose the challenge of frequent re-location for application.

SUMMARY OF THE INVENTION

[0012] In accordance with one implementation, a fluid connector assembly is disclosed. The fluid connector assembly

includes a body portion, a plug portion located on the body portion, the plug portion comprising a fluid path, a tubing, a first end of the tubing fluidly connected to the plug fluid path, a catch feature located on a first end of the body portion and configured to interact with a reservoir, and a latching feature located on a second end of the body portion, the latching feature configured to interact and lock onto the reservoir.

[0013] Some embodiments of this implementation may include one or more of the following features. Wherein the body portion further comprising an indent wherein the indent configured to interact with a reservoir. Wherein the catch feature comprising a ramp. Wherein the second end of the tubing connected to a cannula assembly. Wherein the body portion further comprising a tapered tubing opening, the first end of the tubing connecting to the tapered tubing opening. Wherein the underside of the body portion comprising a core. Wherein the core comprising an identification tag. Wherein the body portion comprising an identification tag. Wherein the identification tag is an RFID tag. Wherein the identification tag is a near-field communication readable RFID.

[0014] In accordance with one implementation a fluid reservoir system is disclosed. The fluid reservoir system includes a disposable housing assembly including a reservoir, a tab portion, the tab portion including a female latching feature, and an exit, the exit fluidly connected to the reservoir, and a fluid connector assembly which includes a body portion, a plug portion located on the body portion, the plug portion including a fluid path, a male latching feature located on a first end of the body portion, the male latching feature configured to interact with the female latching feature on the disposable housing assembly, and a tubing, a first end of the tubing fluidly connected to the plug fluid path, wherein the plug of the connector attaches to the exit of the disposable housing assembly and provides a fluid connection between the reservoir and the tubing.

[0015] Some embodiments of this implementation may include one or more of the following features. Wherein the fluid connector further includes a catch feature located on a second end of the body portion and configured to interact with the disposable housing assembly. Wherein the catch feature includes a ramp. Wherein a second end of the tubing is connected to a cannula assembly. Wherein the connector further includes wherein the body portion includes an indent wherein the indent configured to interact with a reusable portion of an infusion pump. Wherein the body portion further includes a tapered tubing opening, the first end of the tubing connecting to the tapered tubing opening. Wherein the body portion further including a core. Wherein the core further includes an identification tag. Wherein the body portion further including an identification tag. Wherein the identification tag is an RFID tag. Wherein the identification tag is a near-field communication readable RFID.

[0016] In accordance with one implementation, a connector. The connector includes a body portion, a plug, and a tubing in communication with the plug, wherein the plug is configured to attach to an exit in a disposable housing assembly.

[0017] In accordance with first implementation, a wearable infusion pump assembly is disclosed. The wearable infusion pump assembly includes a reservoir for receiving an infusible fluid and a fluid delivery system configured to deliver the infusible fluid from the reservoir to an external